

A NEW SPECIES OF *NEOLASIOPTERA* (DIPTERA: CECIDOMYIIDAE)
FROM *VERBESINA ALTERNIFOLIA* (ASTERACEAE) IN
SOUTHWESTERN PENNSYLVANIA AND MARYLAND

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Abstract.—A new species of Cecidomyiidae, *Neolasioptera incisa* Plakidas, reared from apical branchlet galls on *Verbesina alternifolia* (Asteraceae), is described and illustrated. It is compared to *Neolasioptera verbesinae* Möhn, which forms galls on the stems of the same host. *N. verbesinae*, previously known only from El Salvador, is recorded for the first time from North America.

Key Words: Gall midges, *Verbesina*, *Neolasioptera*

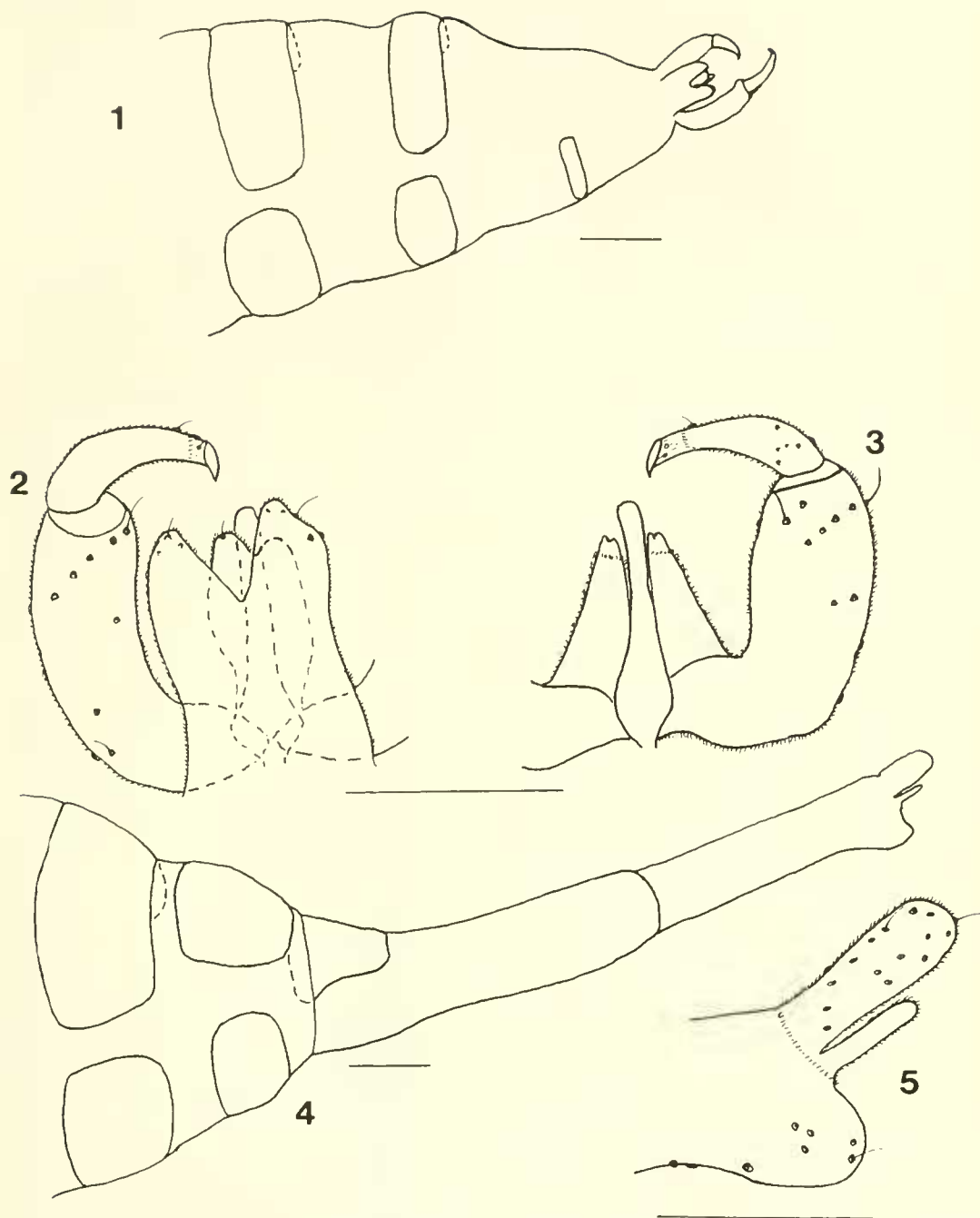
Two kinds of galls can be found on stems and branchlets of *Verbesina alternifolia* (L.) Britton in Pennsylvania and Maryland. One is large, tapered swelling near the base of the plant (Fig. 11), the other a smaller, more gently tapered swelling found only on the branchlets (Fig. 10). Both galls were noted and the large stem gall illustrated in Gagné (1989) under the heading *Neolasioptera* sp. Upon rearing a series of adult *Neolasioptera* from the branchlet galls, I suspected they represented a new species. R. J. Gagné (in litt.) confirmed this for me and also reported that my specimens were different from those he had reared from the large stem gall, which he identified for me as made by *Neolasioptera verbesinae* Möhn, a species previously known only from El Salvador. He suggested that I make note of this new North American record when I described the new species. I have since reared a series of adults from both kinds of galls to confirm that the two galls are species specific, occur in both Pennsylvania and Maryland, and are readily distinguishable as both larvae and adults. The new species is described below and compared to *N. verbesinae*.

MATERIALS AND METHODS

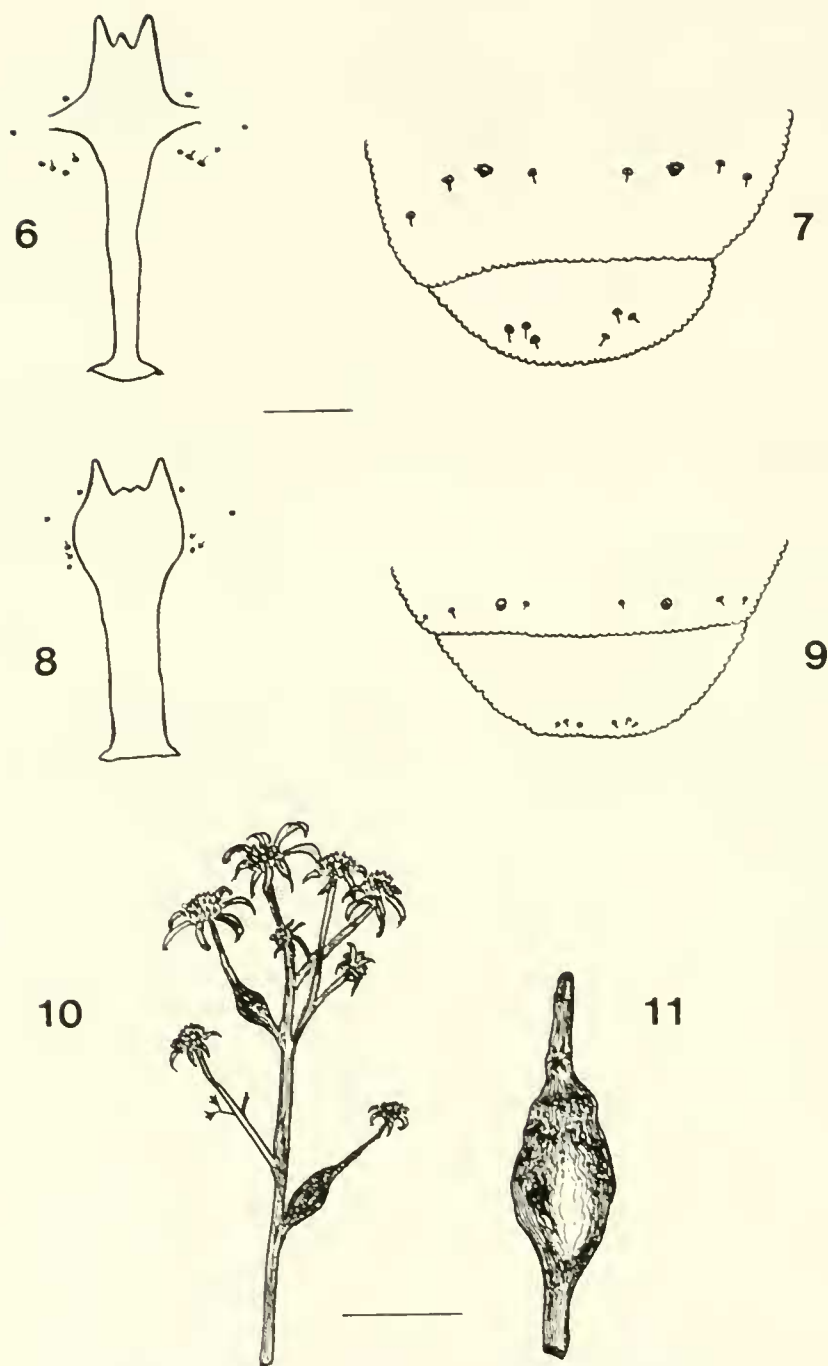
Stem and branchlet galls of *V. alternifolia* were collected in 1991-1993 along Pine Creek at Wildwood Road, Allegheny Co., Pennsylvania and in 1989 along the Monocacy River at Route 28 in Frederick Co., Maryland. Some larvae were removed from the galls for slide mounting and the remainder kept for rearing. Adult specimens were slide mounted or pinned. Slide mounting procedures followed Gagné (1989). Morphological terminology in the species description follows McAlpine (1981) and Gagné and Boldt (1989). Specimens are deposited in the National Museum of Natural History (USNM), Washington, D.C. and the Carnegie Museum of Natural History (CMNH), Pittsburgh, Pennsylvania.

Neolasioptera incisa Plakidas, NEW SPECIES

Adult.—Scale color pattern: frons brown; occiput and entire scutum brown; legs brown, unbanded; leading edge of wing black with a white spot at the juncture of the costa and R_5 ; abdomen with a covering of black scales. Antenna with 13-14 flagellomeres in



Figs. 1-5. *Neolasioptera incisa*. 1, Male postabdomen (ventro-lateral). 2, Male genitalia (dorsal). 3, Male genitalia (ventral, cerci and hypoproct omitted). 4, Female postabdomen (ventrolateral). 5, Detail of cercus (lateral). Scale line for figs. 1, 4 = 0.25 mm; 2, 3, 5 = 0.13 mm.



Figs. 6-11. 6-7. *Neolasioptera incisa*. 6, Spatula and associated papillae. Eighth and anal larval segments (dorsal). Figs. 8-9. *N. verbesinae*. 8, Spatula and associated papillae. 9, Eighth and anal larval segments (dorsal). Fig. 10. Apical branchlet galls of *N. incisa*. Fig. 11. Stem gall of *N. verbesinae*. Scale line for figs. 6 = 0.1 mm; 7, 8, 9 = 0.15 mm; 10, 11 = 2.0 cm.

male ($n = 2$), 15–16 in female ($n = 4$). Frons with many setae and intermixed scales; labella hemispherical with setae laterally; palpus 4-segmented. Thoracic vestiture; scutum with dorsocentral and lateral rows of setae, covered elsewhere with scales except anterolaterally and posterolaterally between the lateral and dorsocentral setal rows, and anteromesally and posteromesally; katepisternum bare; anepisternum with scales on dorsal half; anepimeron with 14–20 setae and 0 scales. Wing length: male, 1.5–1.6 mm ($n = 3$); female, 2.0–2.2 mm ($n = 5$). Ratio length R_5 to remainder of wing: male, 0.50–0.53; female, 0.52–0.55.

Male abdomen (Figs. 1–3): Tergites 1–7 rectangular (Fig. 1), with a single row of posterior setae, 0 lateral setae, covered elsewhere with scales; tergite 7 shorter than tergite 6; tergite 8 unsclerotized, with pair of anterior trichoid sensilla; sternites 2–6 rectangular; sternite 7 rectangular, shorter than sternite 6; sternite 8 much shorter than sternite 7; cerci deeply incised, longer than hypoproct; hypoproct bilobed, shorter than aedeagus.

Female abdomen (Figs. 4–5): Tergites 1–6 longer than in male, vestiture as in male; tergite 7 much narrower than tergite 6, with two rows of posterior setae and scales on posterior third; tergite 8 trapezoidal, narrower than tergite 7, with 1–6 posterior setae, an anterior pair of trichoid sensilla, and 0 scales; sternites 2–7 as for male; sternite 8 absent; cerci (Fig. 5) ovoid, covered with setae and setulae; hypoproct setulose, about 6 times as long as wide; tergite 6 0.38 length of distal half of the ovipositor ($n = 1$).

Last instar.—Length, 2.7–3.5 mm ($n = 3$). Integument pebbled. Spatula (Fig. 6) tridentate, middle tooth shorter than lateral teeth. Four lateral papillae present on each side of spatula, two with short setae, two without; six terminal papillae on anal segment (Fig. 7), all with equally long setae.

Gall.—(Fig. 10). Tapered swelling at the base of the apical branchlets of *V. alternifolia*, 1.5–2.0 cm in length.

Holotype: 1 female, PENNSYLVANIA, Allegheny Co., 7 km E Ingomar, emerged 20 May 1993, deposited in USNM; *Paratypes*: 8 females, PENNSYLVANIA, Allegheny Co., 7 km E Ingomar, emerged 28 May 1993, six deposited in USNM, two in CMNH; 1 male (slide mount), PENNSYLVANIA, Allegheny Co., 7 km E Ingomar, emerged 21 May 1993, deposited in USNM.

Etymology.—The name *incisa* is an adjective meaning notched and refers to the notched hypoproct.

Remarks.—Adults and larvae of the new species are distinctly different from those of *N. verbessinae*. Adults of *N. incisa* are almost entirely covered with black scales but those of *N. verbessinae* have white- and black-banded abdomen and legs. The male hypoproct is bilobed in *N. incisa*, simple in *N. verbessinae*. The spatula of *N. incisa* (Fig. 6) has two large anterior teeth separated by a shorter one; that of *N. verbessinae* (Fig. 8) also has two large teeth but they are set farther apart, separated by two or more short serrations. The gall of *N. verbessinae* (Fig. 11) occurs near the base of the host, while the gall of *N. incisa* (Fig. 10) occurs in the branchlets.

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